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ABSTRACT

The extreme variability of the 50 projects under the NIE Program to Increase the Participation of Minorities and Women in Educational Research and Development necessitates an evaluation design that is flexible enough to accomodate significant differences in project characteristics, yet comprehensive enough to allow meaningful aggregation of cross-project data for evaluation at the program level. This report of a program evaluation method that meets these two objectives is divided into two parts. Part I includes descriptive overview data on major project dimensions that clearly illustrate the wide diversity of the characteristics among the 50 projects. Two key variables, project orientation and targeted participant population, emerged as a basis for logical sub-grouping of projects into a classification matrix. In Part II, possible methods and timing of data collection approaches are outlined in depth and potential data sources are reviewed. The section also outlines a conceptual framework that focuses on the context and process factors influencing project activities and potential outcomes. A final section details a series of recommendations directed to NIE policy makers, program-related personnel, and others interested in the problem of increasing the participation of women and minorities in educational research and development. (CJ)

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FINAL REPORT

DESIGN OF A PLAN FOR EVALUATION OF THE NATIONAL INSTITUTE OF EDUCATION'S PROGRAM TO INCREASE THE PARTICIPATION OF MINORITIES AND WOMEN IN EDUCATIONAL RESEARCH AND DEVELOPMENT

Submitted to:
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May 15, 1980

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Dr. Naida Bagenstos
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Dear Dr. Bagenstos:

L. Miranda and Associates (LM&A) is pleased to present five copies of its final report to the National Institute of Education (NIE).

The report presents an evaluation design for NIE's Program to Increase the Participation of Minorities and Women in Educational Research and Development. The report also contains observations concerning the fifty funded projects, that may relate to the ultimate assessment of the Minorities and Women's Program.

Since submission of the report completes the tasks required by Contract No. 400-79-0011, I would like to take this opportunity to thank you and the members of the NIE Minorities and Women's staff for your cooperation, support and encouragement throughout the design phase. It was very gratifying to meet the many dedicated project staff members whom I would also like to thank for their assistance and contributions to our data collection efforts. Finally, I would like to thank the Advisory Panel members for their suggestions on and thoughtful review of the many documents generated in the course of this study.

I sincerely hope that we will be able to further assist NIE in its important mission of providing educational research and development opportunities for minorities and women.

Sincerely,

Benson E. Penick

Benson E. Penick, Ph.D
Project Director

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EXECUTIVE SUMMARY

EXECUTIVE SUMMARY

In January of 1979, L. Miranda and Associates, Inc. was awarded a contract by the Dissemination and Improvement of Practice Group of the National Institute of Education. This contract was to design an evaluation plan for the NIE Program to Increase the Participation of Minorites and Women in Educational Research and Development. The original 12-month contract called for a design based on data collected from the Program's first set of projects funded in 1977 and 1978. A contract modification in September, 1979, added four months to the design phase contract to allow collection of start-up data on the most recent cohort of projects funded in Spring, 1979. Ultimately, then, the evaluation design was based on data collected from the 50 projects funded under this NIE program. The extreme variability of the projects necessitated an evaluation design that was flexible enough to accomodate significant differences in project characteristics, yet sufficiently comprehensive to allow meaningful aggregation of cross-project data for evaluation at the program level.

The Final Report is divided into two parts. Part I focuses on the implications of identified project/programs characteristics in conceptualizing an evaluation design, while Part II addresses the implications of project/program characteristics for implementation of the evaluation.

Part I of the Final Report includes descriptive overview data on major project dimensions that clearly illustrate the wide diversity of characteristics among the 50 projects. After reviewing the major

dimensions. The Report shows how two key variables--project orientation and targeted participant population--emerged as the basis for logical sub-grouping of projects into a classification matrix. In addition to these two primary variables, a group of secondary independent variables is identified. A discussion of how these variables might be used in expanding the basic classification matrix follows. Dependent variables based on stated program objectives are then presented and classified. The five dependent variables identified are: (1) barrier reduction, (2) non-traditional research, (3) career advancement, (4) institutionalization of change and (5) model development. Part I concludes with a discussion of issues related to NIE Program operations and their implications for the evaluation effort. The Program issues include policy considerations, funding decisions, monitoring strategies and program-project communication.

In Part II of the Final Report possible methods and timing of data collection approaches are outlined in-depth and potential data sources are reviewed in the body of the section. In addition, the section outlines LM&A's conceptual framework that focuses on the context and process factors influencing project activities and potential outcomes. A review of observations made while testing out the conceptual framework (during on-site data collection efforts)attests to its usefulness in gathering and organizing pertinent information.

A final section outlines a series of recommendations directed to NIE policy makers, program-related personnel and others interested in the problem of increasing the participation of women and minorities

in educational research and development. General areas of recommendation include: (1) policy analysis vs. evaluation; (2) assessment of the need for offering advanced research opportunities in light of market conditions, and alternative strategies of doing so. If incorporated, these recommendations should serve to enhance the quality of the evaluation implementation phase.

I. ISSUES IN THE DEVELOPMENT OF AN EVALUATION DESIGN

Introduction

The 50 projects funded by the National Institute of Education's Program to Increase the Participation of Minorities and Women in Educational Research and Development are characterized by extreme variability. The first part of this report is divided into three chapters and focuses on various conceptual issues implied by project characteristics and NIE Minorities and Women Program operations.

Chapter I starts with a description of project dimensions. The information collected from both visited and non-visited projects reflects major project differences relative to the type of institution sponsoring the project, the primary focus, the targeted participant population, and the duration of participant involvement.

Chapter II contains a discussion of project variables that can serve as a basis for logical and useful groupings of the projects. Major classification schemes are considered and a multidimensional scheme is offered as an analysis design feature. A discussion follows of secondary analytic characteristics concerning project type, ethnicity and sex, cost effectiveness, and administrative process.

The issues related to NIE program operations and their implications for the evaluation study are discussed in Chapter III. It is emphasized that the evaluation design must be sensitive to the program-project relationship.

CHAPTER I

PROJECT DIVERSITY

The first task an evaluation designer undertakes is to examine population diversity in order to identify the common elements by which to compare and contrast all members of that population. However, the nature of the 50 projects funded by the NIE Program to Increase the Participation of Minorities and Women in Educational Research and Development can perhaps best be expressed by one simple statement: no two projects are alike. They differ in terms of the type of institution sponsoring the project, their focus or strategy for providing research opportunities, participants' educational levels and professional research experiences and duration of participant involvement. Sponsoring institutions range from small ethnic resource centers with a single administrator to large multi-layered state education agencies. In addition, the 50 projects serve participants at educational levels ranging from undergraduate to post-doctoral, and utilize approaches that include such diverse strategies as two-day workshops and three-year degree programs.

Therefore, LM&A's efforts to develop categorizations for the population sprang not from readily-visible similarities, but rather from a careful analysis of four project dimensions suggested by the project's scope of work:

1) type of institution sponsoring the project;

2) primary focus;

3) targeted participants; and,

4) duration of participant involvement.

In this chapter the authors attempt to illustrate the wide variety of the 50 projects through a descriptive overview of these project dimensions. Overview data on 27 non-visited sites were obtained by a review of project proposals and quarterly reports. The data on 23 visited sites were compiled by proposal review and through a series of on-site observations and interviews.

1. TYPE OF INSTITUTION

In the majority of cases, only one institution was sponsoring (i.e., initiating and administering) a project. For the few cases in which a joint effort was involved and the institutions were of different types, only the institution with the major role in project implementation was recorded as sponsor. Thus, this is the only dimension in which the number of projects totals 50. Below is a list of seven types of institutions that sponsor projects. The number of projects sponsored and a brief operational definition is presented for each type of institution.

Institution of Higher Education (IHE)	23
Institutions granting baccalaureate and/or advanced degrees (M.A., Ph.D./ Ed.D.).	
Developing Institutions	5
Institutions with the desire and potential to make a substantial contribution to higher education, but struggling for survival and isolated from the main currents of academic life.	

Research Lab or Center	6
Non-degree granting research institutions.	
Ethnic Resource Center	10
Institutions established for the purpose of serving needs of specific ethnic populations.	
Private Consulting Firm	2
Firms staffed with experts in various fields, often operating under government contracts.	
State Education Agency (SEA)	2
The department of a state government administering education within the state.	
Professional Association	2
A membership comprised of dues-paying professionals organized to advance professional goals.	

The fact that the majority of projects were sponsored by Institutions of Higher Education should not mislead one into thinking that at least those 23 projects are comparable. Actually, the fact that a project is sponsored by an IHE is often its only commonality with other projects. Projects differ greatly on such dimensions as primary focus and targeted participants.

2. PRIMARY FOCUS

This project dimension describes the means by which projects provide research and related skill development opportunities. Listed below are the seven different categories of primary project focus that have

been identified among the 50 projects. Operational definitions and the number of projects are included for each category:

Workshop (or Workshop Series)	15
A training session in which participants apply disseminated information to develop products, plans, proposals, etc.	
Forum/Conference	7
A meeting organized by the project either to provide participants an opportunity to share research findings or to expose them to presentation by experts.	
Internship	12
A program providing on-the-job training in educational research and development skills.	
Degree Program	3
A program requiring that participants complete an advanced degree as partial fulfillment of project objectives.	
Topical Research	3
A project funded on the basis of planned research on a specific topic where there are acknowledged deficiencies in the existing body of knowledge (e.g., secondary educational practices for Native Americans).	
Team Research	13
A project organizing the research experience as a group effort with participants either entering an on-going research project or initiating a new one.	

A project offering participants the opportunity to conduct individual research, typically using a mentorship model.

Thirty-five of the 50 projects focused on only one component. The remaining 15 projects, however, had multiple foci; thus, the above figures exceed 50. Two projects focused on three categories each: Workshop/Forum/Internship and Workshop/Team Research/Individual Research. Among the 13 projects offering two components, only the Workshop/Individual Research combination occurred more than once. Examples of other combinations include: Internship/Team Research, Forum Internship, and Workshop/Team Research.

Within the primary focus dimension, some sub-categories such as Internship and Workshop appear to correspond to certain implementation strategies; but again, there is considerable overlapping, so this inference should not be drawn. Major implementation strategies identified were coursework, seminars and symposia, lectures series, workshops, on-the-job training and supervised research fieldwork. Coursework is the main strategy for a Degree Program but may also be used in an Internship Program. Likewise, the Forum/Conference projects involve seminars or symposia, while a Lecture Series may be a tool used by projects sponsoring Workshops or Degree Programs. On-the-job training is a principal component of Internships, as defined in this report; and supervised research fieldback is the major implementation strategy of projects focusing on Topical, Team and Individual Research.

3. TARGETED PARTICIPANTS

The "targeted participant" dimension defines that pool of potential applicants perceived by the project staff both as a source of recruitment and as a group whose needs the project objectives were designed to meet. The six targeted participant categories are based on training and occupational level. (The ethnicity and sex of the target populations is recognized as an extremely important dimension and will be discussed later in the report.) The list below shows the number of projects designed to serve each of six targeted participant categories:

Undergraudate Students who do not yet have baccalaureate degrees.	4
Graduate Individuals who are interested in pursuing studies leading to Masters or Doctoral degrees.	24
Post-doctoral Persons who have recently received a Ph.D. degree and are seeking advanced research training and/or experience.	23
School-based Practitioners Persons employed in the field of education as teachers, administrators, librarians, etc.	10
IHE Faculty Individuals employed on college and university faculties, usually on a non-tenure basis.	18

Other Professional 19

> Persons holding full-time positions in basically non-educational institutions who wish to add research skills to those associated with their current occupation.

Some of these categories, too, overlap. Although 21 projects had only one target population, the remaining 29 projects included two to four different target groups. Their combinations of target groups were varied and few patterns emerged. The most common two-group combination was Graduate/Post-doctoral (four projects), while the most common four-group combination was Graduate/Post-doctoral/IHE Faculty/Other Professionals (three projects).

4. DURATION OF PARTICIPANT INVOLVEMENT

This project dimension measures the overall time commitment of participants. The length of participant involvement reportedly ranges from three-day workshops to three-year commitments. The list below shows the time distribution among projects:

Under two weeks	9
Two - six weeks	6
Three - twelve months	4
One year	25
One - two years	8
Three years	2

The figures do not add up to 50 because two projects involved two distinct groups of participants with different time commitments, and one project had three such distinct participant groups.

CONCLUSION

The descriptive overview has addressed four general project dimensions and at the same time demonstrated how little these projects have in common. These four dimensions were chosen because of their inclusiveness and capacity to represent primary characteristics by which both similarities and differences among projects could best be illustrated. However, even this method of grouping projects tends to distort the results because, according to the numerical data presented above, the "typical" project would be sponsored by an IHE, serve graduate or post-doctoral level participants and offer either individual or team research experience. In fact, only two projects actually conform to this "typical" profile.

It should also be noted that the latitude for comparison allowed by this categorization is further reduced when other variables are introduced into the equation. Examples of other variables include projects' funding level and administrative structures, the gender and ethnic distribution of their participants and the number of individuals that each serves.

It was for this reason that LM&A proceeded to further refine its categorizations scheme. The use of participants--rather than projects--as the unit of analysis was taken into consideration. (Participant characteristics, however, are more varied than projects. Participants bring widely divergent backgrounds, expectations and priorities to the project, but they are then exposed to a variety of "treatments.") It was concluded that what was needed, was a more refined categorization of project components upon which to base program evaluation.

In consequence, two of the major dimensions addressed in this chapter were ultimately selected as the basis for project categorizations. Chapter II discusses specific design problems and a rationale for selecting the two chosen dimensions as a proposed solution.

CHAPTER II

CLASSIFICATION AND CATEGORIZATION

Chapter I discussed the diversity of the 50 projects that comprise the NIE Minorities and Women's Program and LM&A's early attempt at developing categories for comparison. This chapter is concerned with how those categories were refined into a system for classifying and categorizing the projects, and discusses the relative merits of several proposed strategies. The chapter concludes with a recommendation for adoption of one strategy that handles project diversity while meeting both the technical and administrative (e.g., scheduling, cost-effectiveness) requirements of evaluative research.

The above-mentioned technical and administrative requirements constitute the criteria for assessing whether the final evaluation design meets the needs it was intended to serve. Criteria include, but are not limited to:

- the need for identifying common aspects of projects in order to generate "independent" or explanatory variables;
- the need to measure two aspects of outcome measures (i.e., program success in fostering mentors, building networks, etc.) and the adequacy of those approaches for increasing the participation of minorities and women in educational research and development;
- the need to generate samples large enough to allow analysis using quantitative statistical techniques; and
- the need to assess both static and dynamic project phenomena.

A concrete example may serve to illustrate how an evaluation design depends on the manner in which projects are classified. If one assumes that: (1) the salient common aspect of projects is the type of sponsoring

institution, and (2) that sponsoring institutions apply varying "treatments" to their participants, then institutional type would represent the "independent" variable and participant outcomes in projects sponsored by each institutional type would represent the "dependent" variable. If one were concerned with how well projects served individual racial/ethnic groups, a separate analysis of outcomes could be undertaken for each group. However, increasing the factor by the full gamut of project differences discussed in Chapter I would reduce sample sizes to the point that the requirements for statistical analyses could not be met. Thus, as noted above, the chapter concludes with a recommended approach for resolving the problem of project diversity and meeting the evaluation requirements of the NIE program.

1. CLASSIFICATION CONSIDERATIONS

a. Project Types Based on NIE Funding Classifications

The first categorization scheme considered was based on NIE's funding classifications. Since the NIE's Request-for-Proposals suggested this scheme as a possible basis for classifying projects, it seemed to represent a logical first step. Subsequent examination, however, revealed its inherent limitations. Of the four dimensions presented in Chapter I (i.e., institutional type, project focus, targeted participants and duration of participant involvement), only participant duration was common to projects within a given funding group. Examples of different types of targeted participants were found in each of the funding categories, but were not evenly distributed. Examples of project

focus and institutional type tended to either be absent or minimally represented in certain funding categories, thus, neither inclusiveness (i.e., at least one example of each dimension in each funding category) nor even distribution (between funding categories) of the four dimensions resulted.

b. Activities Grouping

Another approach that seemed to overcome the problem of minimal representation of Chapter I's dimensions was grouping of project activities. In using this approach one looks at each of the central project activities (e.g., recruitment of participants; application and selection process; assignment of mentor; etc.) and reviews each project accordingly. Just as a categorization of information by individual projects gives an incomplete picture, so does categorization by specific activity components of the overall project operations. Obvious differences in recruitment applications occur between projects of a year or more duration in an IHE as compared to a three-day forum

In summary, while comparisons based on activities may be accomplished, control of other influencing variables would be lacking. It became clear after considering two unidimensional approaches, funding and activities classifications, that a bidimensional or multidimensional scheme was needed.

c. A Bidimensional Approach

Two classification approaches are reviewed above. Each contains both positive and limiting aspects. The multidimensional approach for the classificaiton of projects, therefore, must permit the broadest

(most generic) project representation that is also capable of reflecting the variability contained in the 50 projects. Thus, two primary features were selected as the basis for LM&A's classification: (1) project orientation (defined in terms of a project's approach to research exposure), and (2) targeted participant population (defined in terms of educational/professional level of participants).

The general strategy is to classify each project with respect to relevant categories within these two factors. It would follow, then, that the evaluation design will look systematically at each of the identified outcome variables within the matrix cells of the classification design. The next sections of this chapter describe each of these factors and their relevant categories.

2. CLASSIFICAITON SCHEME--INDEPENDENT VARIABLE DESIGN

As shown in Chapter I, there are several ways to classify projects. LM&A elected to propose a two-way classification scheme as the one that maximized both retention of individual project characteristics and comparisions across projects. Because classification results in the loss of information on some non-universal project characteristics, a limited number of separate analyses could be undertaken to examine the effect of the characteristics assumed by the evaluators or NIE as being most related to differential success in meeting program goals.

a. Project Orientation

Project orientation consists of four categories. The categories were derived from the seven primary focus categories presented in

Chapter I. Project orientation represents basic research training/ exposures used in the 50 projects. In employing this classification scheme, elements of other project dimensions discussed earlier are drawn upon; these include aspects of project duration and implementation strategies. The four categories of project orientation are:

Formal training

Any project that directly involves participants in coursework, lectures, seminars, etc., as a means of developing research-related skills is included in this category. For example, this category might include projects that offer a course in research design, or a seminar in how to apply for research grants.

Research (actual conduct of research)

Obviously, it is not easy to separate research activity that is "skill development" from that which is simply conducting research. In part it becomes a matter of the level of skill possessed by the researcher when he/she begins the project. In some cases, it may be both training and research; in some, one or the other. Obviously, all research training does not involve direct conduct of research.

Internship

This type of orientation refers primarily to the organization and on-the-job training activities

of participants in the project. The internship is seen as meeting needs and providing experience-based research of relatively extended duration.

Workshop

The workshop stands as a prototype of the special projects. It is of short duration and typically involves either the dissemination of research-related information or the application of research findings and methods.

b. Targeted Participant Population

Training, research, internships or workshops can be used for nearly all participant classification schemes. For example, while the program is clearly concerned with race and sex equity in the provision of research opportunities, this section does not classify participant groups in this way. The authors consider project distribution of participants across these groups to be data (dependent variable) for the evaluation analysis. For this classification of independent variables, the targeted participant categories from Chapter I have been collapsed into the following levels of participant characteristics. These categories are based primarily on level of training and occupational status:

Experienced Professional

This group consists of those persons holding full time positions (generally non-research) who have been identified because they wish to add research

in full time research, whether on their jobs or in university departments and persons who, though they may not be employed in a research capacity, hold recent research-related doctorates.

Since factors one and two are considered independent for classification purposes, one now has a 12-celled classification matrix consisting of four levels of project orientation and three levels of targeted participant population.

It would be ideal if each project could be classified in only one cell; however, that is not the case. Projects have several different levels of each of the factors, thus they must be distributed across cells. The resultant 3 x 4 matrix generated by the classification scheme is not exhaustive of important project characteristics. It is considered, however, to provide the means to parcel out the major project variables for purposes of analysis. There are, in addition, secondary variables that may be important to take into account in conceptualizing an evaluation design. These variables might be considered for analytic purposes within the cells of the primary classification matrix.

3. SECONDARY VARIABLES

a. Project Type

The three NIE project funding classifications can be useful for summarizing evaluation data. Project type is defined in terms of the organization and duration of funded projects and encompasses Institutional, Special, and Experimental Projects.

skills to those skills associated with their current occupation. School-based practitioners and the IHE faculty are included in this group. These persons will often not hold doctoral degrees (but may). It is further assumed that these persons are seeking to supplement their occupational skills with research skills, or may be looking for a career change to one in which research plays a more prominent role.

Pre-doctoral

Several of the projects are geared to persons who have not yet attained the doctorate, but who also are not employed full time in a professional capacity. These people may be undergraduates, masters level graduates, or doctoral level. They will generally be enrolled in an IHE, although their participation could be in a different setting, e.g., a lab project.

Post-doctoral

Any person who has obtained a doctoral degree recently, or who is employed in a full time position that involves research is included in this level. It is possible for someone to possess a doctoral degree and not have acquired good research skills or have been directed away from research activities. In general, this person would be considered an experienced professional, not a post-doctoral participant. Thus the use of the term "post-doctoral" is reserved for participants engaged

b. Ethnicity and Sex

This is an obvious consideration for the evaluation design. The extent to which projects have either targeted their activities toward one or more ethnic groups or women can be used as a sub-classification within the matrix cells. If warranted, this classification can also be applied across cells for comparative purposes.

c. Project Spending Levels and Patterns

Because of the implications for refunding decisions, it may be important to know whether: (1) differences in the amount of money spent by projects in the same cell of the classification matrix equal amounts of money spent by projects in different cells of the matrix; and/or (2) monies spent on one type of project activity versus anothe are related to different participant outcomes. Since Chapter III discusses potential problems related to funding delays, it may also be useful to determine the feasibility of examining the relationship of funding delays to project outcomes.

d. Administrative Process

The basic administrative process varies across projects. This variation concerns not only what gets done but who does it. Variations may be important for explaining differential success in the extent to which intervention strategies are developed, and the participation of minorities and women in educational research and development is increased. For example, variables such as how mentoring decisions get made, and who is consulted during the decision-making process may have implications for whether the relationship is formed and also whether it ultimately is a factor in increasing the quality of research produced by mentors.

Administrative process and other secondary variables, then, may be useful for fine-tuned analyses within the primary data matrix.

4. CLASSIFICATION MATRIX

The basic matrix consists of 12 cells. The 12 cells are generated by four project orientation categories and three targeted participant population categories. (See Table 2.1) Each of the projects for which on-site data have been obtained at this time, can be represented in this matrix. Conversely, each cell of the matrix contains at least one project. Without summarizing the projects by type, it is evident that 40 are targeted at experienced professionals, 21 at pre-doctoral students, and 27 at post-doctoral students. Since there were only 23 different projects reviewed, each appeared in an average of four different cells. This suggests that each project has at least four different ways in which it can be characterized within this 12-cell matrix. Looking at project orientation, one can see that 23 projects show training orientations, 23 have research orientations, 17 have internships and 14 have workshops.

The matrix classification is suggested as a way to organize the information collected from each project site. It is further proposed as a reasonable way to handle the conflict between project summaries and generalizations and individual project variability. It is offered as a scheme within which it will be possible to design an evaluation that will be able to link systematically all relevant outcome variables and to draw inferences from them concerning the extent to which the NIE Minorities and Women Program is meeting its objectives.

TABLE 2.1

Classification Matrix for Project Orientation
by Targeted Participant Population

Targeted Participant Population	Project Orientation				
	Training	Research	Internships	Workshops	Total
Experienced Professional	15	10	7	8	40
Predoctoral	8	6	5	2	21
Postdoctoral	11	7	5	4	27
Total	34	23	17	14	88

Note: The numbers in each cell refer to the projects which can reasonably be considered to offer the respective combination of project orientation and targeted participants. As indicated in this text, most projects offer several orientations and include participants from two or more of the above catagories.

a. Program Outcomes

The project diversity that led to the classification matrix presented on the previous page, reflects the latitude permitted by the NIE proposal guidelines. It appears that as long as the proposed participants were minorities or women, projects were free to suggest any intervention strategy deemed likely to achieve program goals. As a consequence, there can be two levels of evaluation. In assessing project effectiveness, each project would be judged relative to its chosen objectives. On the other hand, program evaluation must examine the overall effectiveness of the 50 projects in meeting program goals. The proposed evaluation design, provides the basis for examining the relationship between the independent variable classes presented above and classes of outcome measures discussed below.

b. Program Objectives

The basic framework for the creation of outcome measures is given in RFP-NIE-78-0027 (Section IV, p.4). These can be used in a slightly altered form as outcome measures: reduction of barriers to research careers; acceptance of non-traditional research; institutionalization of change generated by projects; and R & D implications (model development). A slight reworking and organization of these considerations leads us to a five-part classification scheme for the development of dependent variables.

1) Barrier Reduction

Of specific interest to NIE is the extent to which projects successfully diminish or remove barriers to participation in educational R & D for women and ethnic minorities. Two assumes barrier dissolution

strategies are effective "mentoring" relationships and expanded "networks" within which target groups can participate. Thus, the outcome design must focus on strategies for the measurement of the effectiveness of mentoring relationships and networking arrangements fostered by the projects. The design should also show the extent to which success in fostering mentor relationships and increasing access to networks actually increases participation in educational research.

2) Non-Traditional Research

The term non-traditional research refers to research content and methodology that are associated with the perspective, experimental and cultural differences that distinguish some minorities and women from majority males. While the disincentives and lack of support for non-traditional research are often considered barriers to participation, we are recommending that non-traditional research be considered a significant design feature in its own right. Since the aim of the program is not only to improve equity for participation of people, but to improve the utility of research in educational and social settings, non-traditional research is seen as a primary outcome of this program. The evaluation design must offer strategies for assessing the extent to which non-traditional research is made possible and is encouraged as a positive incentive to involve women and ethnic minorities in research.

3) Career Advancement

It is assumed that increased participation will only be possible if career advancement takes place or is made more probable as a result of this program. Therefore, the design must consider the variety of ways

in which project operations facilitate or encourage career development. At one point, criteria for career advancement (i.e., development of specific competencies, such as one's ability to write quality research proposals) will have to be identified for the specific types of sponsoring institutions. Then, these criteria must be evaluated against the program goal of improvement in the quality and quantity of educational research produced by minorities and women.

4) Institutionalization of Change Generated by Projects

Just as concepts such as networking and mentoring imply an extensions of contacts between targeted participants and the R&D community, the NIE envisions the "spread of effect" of the current program to be reflected in an expansion of the number of institutions who maintain similar objectives and program operations. The evaluation will have to consider ways in which projects have made provision for this continuing identification and reduction of participation barriers.

5) Model Development

As noted in the previous sections, institutionalizing a successful operation is a desirable consequence of this program. The data obtained from case study analysis as compared to that obtained across projects suggests that model(s) with positive consequences could be developed in accordance with many of the positive characteristics identified in existing programs. We recommend that such model(s) be developed as part of the overall evaluation effort.

The data required to describe and assess project and program operations and outcomes can be gathered in a number of different ways. Some suggested approaches to data collection and implications of their use in the proposed evaluation are presented in the next chapter.

CHAPTER III

ISSUES IN PROGRAM EVALUATION

In the first two chapters of this report an overview of projects is provided. That overview includes a description of project dimensions and a scheme for their classification and categorization. Also presented were recommendations for the assessment of program/project outcomes. This chapter addresses the need to develop a comprehensive approach for program evaluation.

Just as diversity is an issue in considering an approach to project classification, it is also a factor in evaluating the overall program. Apart from individual differences, women and racial/ethnic minorities, as representatives of five different groups, tend to be differentially underrepresented in educational research and development, have different cultural backgrounds and different levels of experience in attempting to overcome barriers through educational intervention. All five groups are correctly perceived as being outside the mainstream of educational research and development. Yet, decisions as to the amount and type of assistance each group should be given hinge on numerous considerations.

Many factors also influence shifts in the focus of any new program. Thus, any effort to evaluate this program must be sensitive to the existence of external factors beyond its span or control.

In light of the above, Chapter III focuses on varied global issues that should be considered and understood when evaluating the NIE program. For example, it is necessary for the evaluator to become familiar with policy considerations relative to proposal review procedures,

funding decisions, monitoring strategies and program-project communication networks. An examination of these factors is necessary not only for evaluation of the program, but also in developing criteria for determining the effectiveness of existing projects and in establishing guidelines to direct improved program implementation. The section that follows discusses each of the above-mentioned factors as they relate to program evaluation.

1. POLICY CONSIDERATIONS

The extent to which project goals and objectives are consistent with program focus should be a major factor in determining which projects are selected for funding. Although such an assessment was not a specific requirement of this design study, its data collection activities did provide some insights. Specifically, it appeared that project goals were generally consistent with the program's focus as it existed at the time of funding. However, when the program focus shifted from an emphasis on research management to advanced research opportunities, Labs' and Centers' research management projects continued to be funded.

While the above-mentioned example may represent a case of funding based on policies established by NIE and not program administrators, an evaluation of the program would have to pose certain questions. For example, were Labs and Centers refunded with the understanding that their focus would change? Is their success to be based on the degree to which they met the program goals that existed at the time of their original funding? Were operational definitions of advanced opportunities sufficiently broad so as to encompass the focus of Labs and Centers?

Although the above discussion focuses on the Labs and Centers, similar questions would also have to be posed in order to determine the appropriateness of funding decisions for other types of institutions. In addition to identifying the source of policy decisions and examining the process by which that policy is reflected in funding decisions, other features of funding are considered in the next section.

2. FUNDING DECISIONS

It has been observed that the timing and allocation of funds to selected projects has a direct impact on project operations. Late funding decisions, for example, may affect project efforts in the recruitment of desired participants, the confirmation of instructional commitments from professionals and the organization of resource networks and instructional materials.

Uncertainty about the continuation of project funding can also create serious psychological problems for participants and staff members. On the one hand, participants may experience stress because of concerns as to whether they will be able to complete their training and maintain their living standards. The stress many interfere with present attentiveness to project activities and adversely affect performance. In some cases, participants have been affected to such an extent that they were considering abandoning their involvement in the project. On the other hand, efforts expended by project staff members to cope with participant's anxiety and influence the program's refunding decisions are likely to interfere with their handling of day-to-day responsibilities. Thus it is clear that an evaluation must consider the timeliness and clarity associated with funding and refunding communications practices.

In addition to examining the effects of funding practices on project implementation, it is imperative that the NIE program evaluate the nature of project training strategies to determine how closely they comply with program requirements. This investigation is most important in refunding decisions and is largely accomplished through the program's monitoring activities.

3. MONITORING STRATEGIES

An assessment of NIE's monitoring of projects is likely to provide valuable information on the extent of congruity between program goals and project definitions. Although an analysis of project reports, which are completed by NIE staff, will provide some pertinent data relative to program implementation and participant accomplishments, the subjective nature of this information may bias the validity of project evaluations. It is also anticipated that objectivity, reliability and validity in examining project functions may be influenced by the application of different assessment techniques by different staff members, different monitoring styles, the extent of the monitoring contact with projects and the monitor's previous professional experience. These factors underscore the importance of discovering how monitoring strategies are devised and employed before obtaining an accurate assessment of program functioning.

An evaluation of the NIE program is expected to determine not only whether project monitoring should be directed to project functions and immediate training accomplishments, but also to future outcomes as determined by employment mobility and project maintenance. Thus, monitoring might assess both aspects of the outcome measures

discussed in Chapter II. In specific terms, follow-through information on the number of participants who, after completion of training, remain in educational research and development and a description of their job-related responsibilities may be a direct measure of effectiveness. The refunding of a particular project and/or its incorporation into general institutional functions is another indicator of positive impact. Guidelines for projects to maintain contact with alumni participants and to examine project outcomes is necessary to the overall assessment process.

4. PROGRAM-PROJECT COMMUNICATIONS

Another issues that demands attention is the evaluation of communication systems that are established between NIE program staff and the projects. The relationship between these components is important to the quality of program implementation and project activities. This interaction further enhances the accessibility of participants to other activities such as conferences, workshops and seminars that occur outside of the project. This exposure to a variety of stimulating experiences enhances personal development and contributes to the formation of a viable resource network between the program and other agencies and institutions who share similar concerns in educational research and development. While networking is important to participants as they gather information for research projects, these contacts can also be instrumental when they seek future employment.

It is expected that consideration for these issues regarding the evaluation of program functions will call attention to areas in need of further research and provide early warning signals about critical

concerns. Based on the information obtained from the evaluation of the NIE program, specific findings and recommendations for different audiences may be defined. In sum, it is anticipated that the outcome of evaluation efforts will be to improve program implementation such that project activities may be more suitable and supportive of individual strengths, weaknesses and overall interest in educational research and development.

II. IMPLEMENTATION IMPLICATIONS OF PROJECT/PROGRAM CHARACTERISTICS

The first part of this report discussed issues in the development of an evaluation design. This part discusses data collection strategies and recommendations for implementing an evaluation.

Chapter IV presents suggestions on approaches to and scheduling of data collection. It identifies methods by which one can gain information about projects from sources other than records and documents.

Chapter V discusses the use of proposals, quarterly and other interim reports, application forms, annual reports and participant/project logs to obtain data.

Chapter VI reviews current observations on aspects of projects that will require special attention in the design of instruments and the conduct of site visits. This section also presents a discussion of implications relative to the conceptual approach which may be useful to anyone devising data collection instruments and strategies.

Chapter VII discusses the relationship between evaluation and policy. It also suggests other factors (such as other federal programs with similar objectives) that should be considered in carrying out an evaluation.

CHAPTER IV

APPROACHES TO DATA COLLECTION

LM&A's experiences, in developing an evaluation design, suggest that interviews, observations and mail questionnaires should represent the primary data collection techniques in an evaluation effort.

Since LM&A made extensive use of interviews in the design phase, most of the points concerning use of that technique are based on its demonstrated utility in assessing the Minority and Women's projects. The discussion of questionnaires, however, is general in nature; since there is at this time no concrete indication of the extent to which they might be useful in evaluating the projects and program.

1. INTERVIEW/CASE STUDIES

"Case Studies" represent an effective approach to gathering information from projects for which there is little documentation concerning their operation.

In the design phase, "case studies" were initially conducted according to the guidelines established in the RFP. Specifically, Experimental Project and Institutional grant recipients were visited by two-person teams for two days. Adherence to this type of schedule dictated that the "case studies" were that in name only. Individual and group interviews typically consumed the entire alloted time, leaving no time for observation (or other activities generally associated with true case studies). Given the purpose of the design phase, however, the approach proved to be valuable. Interviews were extremely helpful in: (1) getting a general

The appropriateness of this type of site selection strategy in the implementation phase will be largely dependent upon temporal considerations. If site selection is undertaken prior to administration of a questionnaire, a strategy analagous to that used in the design phase is recommended. The 3 x 4 matrix presented in Chapter III could be used as a basis for selecting sites, with the final selection being designed to include at least one project to represent each cell. Since the design phase yielded an example of programs for each of the target populations and few differences were noted in projects focusing on populations other than Native Americans, the issue of selecting projects that focus on the full range of racial/ethnic populations would not have to be addressed. On the other hand, if the case study approach in the implementation phase were to follow an administration of questionnaires and be more indepth (i.e. a true case study), then the additional data collection activities might reveal differences and would call for inclusion of projects for each racial/ethnic group.

Since cost effectiveness is always an objective, site selection should consider the number of projects in a metropolitan (or surrounding) area as one of the criteria. Not only should the locus of a project be a factor, but also, if it can be determined, geographic areas with high concentrations of alumni participants should be considered as a means of facilitating follow up interviews.

a. Required Interviews

The interviews discussed under this heading are those that will typically be conducted at every visited site. Optional interviews are those that may be conducted with respondent types not found in every

project, or those who should be interviewed only in specific circumstances. The discussion in this section includes some aspects of scheduling that would normally appear in a procedure section; however, because of their implications for interviewee selection, they are presented at this point.

1) Project Directors

Initial interviews should be held with the Project Directors. Except in those rare cases where another individual--perhaps a Deputy--has a comprehensive understanding of the issues and operations that characterize the project, there is no substitute for the type of overview provided in the initial project director interview. Whenever possible, the project director should be asked to provide some time at the end of the first day (or beginning of the second day) to discuss the impressions formed on day one and perhaps to suggest modifications in the visitation schedule. This point will be discussed more fully in the procedures section.

2) Participants

The participant interviews seem to be most productive when they are scheduled immediately after the project director interview. Ideally, homogeneous group sessions (i.e. comprised only of experienced professionals or pre/post doctoral students) should be arranged. Group sessions allow mutual stimulation and peer group support for verbalizing some universal but sensitive problem.

The group sessions also identify issues that should be more fully probed in individual sessions, whether these are formal or informal. Homogeneous sessions have the advantage of providing insight into how projects serve groups of similar individuals without minimizing discussion related to individual differences.

3) Mentors

Whereas group sessions with participants are recommended, the individual interview seems most appropriate for mentors. The support that the group lends to participants seems to give rise to colleagial courtesy--with a resultant diminution in candor--when senior level participants are queried. Furthermore, if mentor interview sessions follow participant interviews, much can be accomplished. This sequence allows interviewers to follow up on situations of significance gleaned from the contributions of individual participants and the participants as a group.

4) Instructional and Other Staff

Since project staff, unlike mentors, are not likely to be involved in an in-depth relationship with individual participants, these interviewees can be readily handled in a group setting. If it can be arranged, lunch often provides an opportune setting for meeting with this group. Their general insights, while seldom different from those discussed above, may raise some unique issues that can be aired with the project director or with individual participants in later sessions.

b. Optional Interviews

Situational differences will determine which, if any, of the optional interviews may be beneficial. Whenever these are deemed appropriate, they can be discussed with the Project Director in the session at the end of the first day or beginning of the second day. Interviewee types that were included in the design phase and impressions of their utility as informants are discussed briefly below.

1) Institutional Officials

In Labs and Centers, Ethnic Resource Centers and other relatively small settings, this group can be a valuable information source. Not only can they convey a sense of institutional climate, but often they can also speak knowledgeably about the project. In IHEs and larger settings, the institutional official seldom knows more than a few details about project activities. However, in those cases where the IHE official is involved in the project, he/she should be interviewed. Moreover, there should be an attempt to somehow assess the extent of his/her involvement since that measure might represent an important explanatory (independent) variable in accounting for differential project impact.

2) Affirmative Action Officers (AAOs)

Several AAOs were interviewed in the design phase in an effort to get a feel for the institutional climates of sponsoring organizations. This strategy proved very ineffective and should not be considered for the implementation phase. Not only is institutional climate assessible in numerous other ways, but the type of information that is most valuable in the area of affirmative action involves the examination of records. Since Chapter VI indicates that the institutional context is seldom what grantee proposals reflect, it appears that the Minorities and Women's Program sponsor should request that grantees provide information of this type as part of its routine reporting requirement.

3) Internal Evaluation Specialist

The decision to interview evaluators should be based on the amount of information that can be gleaned from the Annual Reports required of all projects. Where comprehensive evaluations are included in those documents, there may be little reason to interview the evaluator. On the other hand, if there is evidence that evaluation activities are taking place and there is no evaluation report from which to obtain relevant information, clearly the evaluator should be interviewed. When participants are involved in the actual conduct of an evaluation, a special session or specific time in the context of another session should be set aside for discussion of the evaluation. This procedure will allow the Contractor to focus specifically on the evaluation activity, and its role in the participant's training as well as on what the procedures and findings may reveal about the project itself.

4) Officials from Community-Based Organizations and Other Applied Research Settings

Although individuals from applied research organizations may be project participants, more often they represent individuals whose data analysis needs can be met by project participants. These individuals represent a valuable source of information concerning both participants' and projects' effectiveness. They also will provide considerable information concerning the institutionalization of projects; their ability to expand networking to non-traditional settings; and, priorities that might be critical, but not presently addressed by the NIE Minorities and Women's Program.

c. Approach

There are three issues of concern in carrying out interviews: 1) access to projects, 2) scheduling of visits, and 3) procedure to be used.

1) Access

Once site selection has occurred, it is essential that the Contractor be able to gain access to the projects that are to be visited. In the design phase there were some problems in this area. Most of the difficulties were due to a Project Director's unfamiliarity with the Contractor. and the scope of the study, or the reluctance of some project directors to meet with the Contractor.

The solution to the unfamiliarity problem appears simple. Rather than having the Contractor send a project description and NIE a letter, NIE should provide the implementation Contractor with letters to accompany the contractor's project description. By placing the onus on the Contractor and sending a single package, there should be far more accountability and efficiency.

Project Director reluctance is a far more difficult and sensitive problem. Rather than propose a solution, perhaps it would be more helpful to provide a description of the context in which such problems occur. Project directors fear that because of the low priority usually afforded programs, any deviation from the proposed objectives is likely to result in termination of their project. While the simple solution would be to assure everyone that their funding would not be jeopardized by the outcome of an evaluation, this has the potential for creating problems for participants who may be shortchanged by an inadequate effort (see Chapter III for a more complete discussion).

2) Scheduling

Apart from the question of how one schedules individual days--which was previously discussed in the Required Interviews section, the implementation Contractor will have to obtain a schedule of significant events for each project. With this information, the Contractor can not only make decisions about the utility of attending those events, but can avoid situations in which a project staff's on-going activities make its members unavailable for interviews.

At the time that projects are asked to provide a schedule of significant events, they should also be asked to indicate special holidays for their particular institutions (e.g., when do they observe, or do they observe Veterans Day), or holidays celebrated by the particular target populations they serve.

Also, information concerning differences in projects' morning and afternoon activities (e.g., as in the case of summer workshops) can be used to maximize the cost-effectiveness of scheduling and staff deployment. Similarly, in cities that have many projects and/or a concentration of alumni participants, information regarding distances and required travel time (between sites) is a valuable planning aid.

3) Procedure

Once the project has been contacted and NIE has operated to ensure access to the site, the visit can be confirmed and data collection initiated. At the time projects are contacted regarding the site visit, PDs should be asked to schedule sessions based on the Contractor's informational requirements. The scope of and rationale for their needs can be under-

scored in the phone conversation, but should appear initially in letters introducing the Contractor to the PDs. The interviewer will prepare for the site visit by examining proposals, quarterly reports and any other pertinent documents.

LM&A found that interviews proceeded most effectively when begun with a step-by-step explanation of the study's conceptual framework. Once this explanation was completed, a general question regarding unreported project changes and a request for project directors to discuss the various components of the conceptual frame work typically led to the achievement of all interview objectives. The initial session with project directors then concluded with a discussion of confidentiality, reporting procedures and a review of the agenda with requests for any session not apparently covered by the projects director's scheduling.

The remaining interviews were typically conducted according to the schedule discussed in the interviewee section presented previously. In each case, the explanation of the conceptual frame work and assurances of confidentiality were included in the discussion with interviewees. Also, individual interviewee sessions and the interim and final debriefings with the project director provided opportunities for the Contractor to share ideas and make limited recommendations (in accordance with the constraints imposed by the Contractor, scope of work and confidentiality requirements).

3. QUESTIONNAIRES

Although they were not included among the data collection strategies employed in the design phase, it is apparent that the implementation phase will require the use of questionnaires to ensure a comprehensive evaluation

of the NIE program. While there are several possible ways in which questionnaire data might be obtained, the steps outlined in the following sections are based on the assumption that the Contractor has responsibility for all aspects of the questionnaire-related data collection.

a. Identification of Respondents

LM&A experiences during the design phase suggest that there should probably be at least four categories of respondents: NIE Personnel, Project Personnel, Participants and Alumni Participants, and Participant Supervisors. Responses generated by inclusion of these four groups would provide insight into program and project effectiveness, and would either provide the basis for in-depth case studies or serve to validate the findings of less intensive interviews--depending on the sequential order of questionnaire administration and interviews.

1) NIE Personnel

The inclusion of NIE Personnel is designed to elicit information concerning the programmatic issues discussed in Chapter 3. The specific individuals could be determined through meetings with the Project Officer and would be based on the types of programmatic issues deemed to be most essential to the evaluation objectives.

2) Project Personnel

Since any interview approach would include sessions with project personnel, questionnaires might be designed to accomplish two additional objectives: (1) the acquisition of information (similar to that obtained from site visits) from non-visited sites; and, (2) information requiring examination of files and records that could be gathered from all sites

3) Participants and Alumni Participants

Participants and alumni participants represent valuable information sources. Of the two groups, however, the alumni are more critical in use of the questionnaire approach, since they are not readily accessible through any of the other procedures. This is particularly true in relation to Special Projects which are short term in duration and are not likely to retain participants as employees or as graduate students. Because of the apparently inconsistent internal evaluation efforts of projects (see Chapter 6), there is no indication at this point as to how well project records might facilitate identification and contact with alumni participants. For this reason, one of the early activities of the implementation Contractor would be to determine an approach to the alumni information. Once contacted, alumni should be asked to grant permission for the Contractor to contact their present supervisors. This could be accomplished through their signing a consent statement included in the questionnaire. If this procedure is followed, supervisors could be mailed a photostatic copy of the consent prior to the time they are interviewed.

4) Participant Supervisors

Supervisors would be interviewed only upon consent by the participant. Because this interview group is likely to be the least well represented, every effort should be made to elicit responses from its members.

b. Instrument Development

There are no aspects of instrument development that are specific to this project. Because the questionnaires are likely to require

clearance by NIE and the Office of Management and Budget (OMB), they should be developed with attention given to information requirements and clearance considerations (i.e., overall utility and avoidance of excessive respondent burdens).

c. Procedures

As noted in the discussion of instrument development above, the Contractor should expect to follow standard procedures. Also, since data collected in the design phase suggests that most participants' perceptions of their projects are favorable, projects' involvement in the data collection activities of the implementation phase seem desirable. Projects should be asked to send letters to alumni participants advising them that they will be contacted by the Contractor and encouraging their cooperation. In fact, the extent to which the project is willing to cooperate with the Contractor in this endeavor might have some utility as an explanatory variable in assessing differential project impact.

CHAPTER V

ADDITIONAL DATA SOURCES

In addition to the data gathered through interviews, observations and questionnaires, information can be obtained from a number of documents/records. The most prominent of these are discussed below in terms of availability, content and potential utility.

1. PROPOSALS

Proposals for all funded projects are readily available through the Minorities and Women's Program. Unfunded proposals, while they would be helpful in terms of lending insight into funding as a programmatic issue, are not in the public domain and could be obtained only with the consent of the submitters. One alternative, the viability of which has not yet been determined, would be the use of summary information regarding unfunded proposals. Questions concerning both the existence and availability of such summaries would have to be answered before the implementation contractor could include this source among those to be examined.

Funded proposals provide good general insight into project operations, and should be used as a first information source. This statement is particularly important since LM&A's experience suggests that project abstracts based upon the proposals are often somewhat misleading expecially as they relate to project focus. In addition to providing general insight, proposals are also an excellent means of determining objectives, activities, implicit priorities based on budgets and staff backgrounds.

2. QUARTERLY REPORTS

While some content items such as objectives are not likely to change between proposal submission and implementation, others such as participating staff may well change. For this reason, the second additional data source should be the quarterly and other periodic reports submitted by projects to NIE. Unlike proposals, however, periodic reports are not readily available. They are not required as part of the grant and, therefore, are submitted at the discretion of the Project Directors. Moreover, many periodic reports that Project Directors claim to have submitted (in response to LM&A's mail questionnaire) cannot be located in the files maintained by the Minorities and Women's Program. In addition to project changes that are typically noted in the initial reports, other information likely to be contained in available reports includes: (1) race and ethnicity of participants, (2) details on programmatic offerings, (3) listings of participants' research topics, (4) budget status reports, and, (5) qualitative assessments of short-term project activities.

Quarterly report also discuss modifications of proposed project operations and record changes in project features over a period of time. Of secondary importance is the impact assessments they might contain. Contractor knowledge of changes is important because it may affect assumptions upon which data collection activities are based. On the other hand, perceptions contained in such reports are less important because they often reflect only the views of one segment of the population involved in the projects.

3. APPLICATION FORMS

Application forms typically contain information on an individual's background and reasons for wanting to participate in the project. Thus, the forms represent a means of assessing a project's selection procedures by comparing participants and unselected applicants[1] on information related to selection criteria. Application forms that elicit information on expectation also provide a basis for determining how participants change in this regard, after having been exposed to the project activities.

For projects that used other selection methods, comparisons of participants and unselected applicants also seem to be relatively simple. Other than application forms the most frequently used selection methods are recommendations and assessments of proposals submitted by applicants. Both of these processes generally lend themselves to comparisons of selected and unselected applicants, however, only the proposals would be likely to provide information on applicants' expectations and experiences -- and then, only in limited amounts.

In light of the above discussion, the Implementation Contractor may wish to employ a two-pronged approach to the acquisition of information on applicants' characteristics and expectations. One strategy calls for requesting all existent forms. The second calls for including a section on questionnaires that will yield similar information for participants applying to projects which did not employ application forms.

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[1]This statement and subsequent discussion of selected vs. unselected applicants is limited to competitive situations. In some cases all who applied were selected, thus, in those instances comparisons obviously cannot occur.

The limitations of the questionnaire approach are: (1) It requires respondents to reconstruct their expectations and other preceptions as they existed several years before; and, (2) It may be more likely to elicit information from individuals whose training and career outcomes have been consistent with their expectations.

Yet another approach to the problem of obtaining information on characteristics and expectations would be to limit analysis of participant expectations to those projects that used application forms while using project records as an all-inclusive means of getting at participant characteristics. This approach avoids relying on individual's memories, but does have the weakness of assuming that project participants who go through an application process have expectations that do not systematically differ from those who were otherwise selected.

The other potential problem involved in the use of application forms is project unwillingness to provide forms for unselected applicants. Although confidentiality would not be breached by providing forms that have removed individual identifiers, the LM&A staff had concerns that there might be some reluctance to honor requests for information concerning unselected applicants. This assumption was tested through the use of a limited mail survey. The results of that survey suggest that in the vast majority of projects (i.e. eleven of twelve) this concern is probably unfounded.

4. ANNUAL/FINAL REPORTS

Proposal guidelines required that all projects have an Internal Evaluation Component. Projects responded with proposals that typically

called for the inclusion of evaluation findings on their Annual/Final Reports. Once projects were notified of their having been selected, budget negotiations occurred. In these negotiations, evaluation plans were often eliminated or drastically reduced as a means of reducing the level of funding sought.

As a result of the above-mentioned process, the value of Annual/Final Reports as a data source is questionable. Despite expectations by the NIE Minorities and Women's Program staff that all Annual Reports would be available by February, 1980, few had been submitted in late March.

A summary of contents from Annual Reports received to-date, indicates that findings, when present, may include:

-- Participant evaluations;

-- Advisory Committee evaluations;

-- Management by Objectives Charts;

-- Participant outcome measures (e.g., number of presentations, publications);

-- Background information on second-year participants; and,

-- Comparisons of project effectiveness with respect to different target populations.

However, in view of the low submission rate, the lack of substantive data in the reports that were submitted and the submission of continuation proposals in lieu of Annual Reports, these documents seem to have little value for an implementation contractor.

5. PARTICIPANT/PROJECT LOGS

While the information gathered during LM&A's site visits suggested that maintenance of participant and Project Director logs was limited,

more recent information suggests otherwise. Data obtained through Project Director's responses to the limited mail questionnaires indicate that 67 percent (8/12) of the projects maintain Director logs and 41.6 percent (5/12) of the projects maintain participant logs.

Since the Project Directors who indicated that they maintain logs also indicated a willingness to make them available, the implementation Contractor may wish to request the logs, determine their level of detail and use their informational content as one of the bases for making site selection decisions.

CHAPTER VI

CURRENT PROJECT OBSERVATIONS

In the earliest phases of preparing this evaluation design the LM&A team developed a conceptual framework to assist in the conduct of the site visits and data collection. The team conducted site visits, and gathered information related to concerns expressed by NIE. The objective of this chapter is to report major observations that may have implications for the ultimate assessment of projects funded by the Minorities and Women's Program. The areas of concern were:

- Outreach mechanisms
- Selection
- Implementation
- Mentors and relationships
- Procedural barriers
- Networks
- Research training, content and methodology
- Institutional climate
- Participants and other departmental individuals

1. CONCEPTUAL FRAMEWORK

The conceptual framework was developed to define the important variables for consideration in the study and suggest some relationships among them. The framework served as the theoretical scheme for organizing the entire study. The framework served as a guide for the site visits, the development of questions, the collection of data and the syntheses of information obtained from proposal reviews and site visits. Table 4.1

TABLE 4.1

A Graphic Representation of LM&A's Conceptual Framework

THEME	CONTEXT	PROCESS	IMPACT
OUTREACH			
SELECTION			
IMPLEMENTATION			
MENTORS and RELATIONSHIPS			
PROCEDURAL BARRIERS			
NETWORKS			
RESEARCH TRAINING, CONTENT, METHODOLOGY			
NON-ACADEMIC INSTITUTIONAL CLIMATE			
PARTICIPANTS and INDIVIDUALS			

Questions relevant to:

a. level of effort

b. perceived impact

c. real impact

presents a graphic view of the framework with the timeline and areas of concern for reducing the underrepresentation of minorities and women in educational research and development.

2. TIMELINE

The three components of the timeline are context, process and impact:

- Context refers to conditions at the individual (e.g. participants, mentors, etc.) and institutional levels as they existed prior to the onset of the project. For example, consideration was given to the types of mentoring relationships an individual was involved in prior to assuming those responsibilities for program participants. Also considered was the preparation, prior experiences and entering expectations of the participants.

- Process refers to the day by day operations of the project. It includes procedures by which the projects seek to accomplish their stated objectives, the administrative processes through which the objectives are translated into specific project activities; and, the resource expenditure associated with the implementation of the activities.

- Impact (or effect) refers to: (1) real impact (i.e., the number of short and long range indicators of expanded participation by minorities and women in educational research); (2) perceived impact (i.e., the amount of project activity in those areas which were presumed, on an apriori basis, to be valuable in the accomplishment of project goals).

3. THEMES OF CONCERN

The working definitions of the themes are given at the beginning of each section which outlines the LM&A team observations.

a. Outreach Mechanisms

Outreach mechanisms are the methods by which project staff announce the projects, locate and identify potential participants and actually solicit applications from identified individuals.

Context: A majority of the projects reviewed employed traditional methods of announcement. These included the use of brochures distributed throughout the educational community, the placement of advertisements in professional association newsletters, internal publications, as well as inter-and intra-departmental announcements. There was also a heavy reliance upon both formal and informal personal contacts. Former students and colleagues were encouraged to participate in projects. Students already enrolled in other departments were invited to submit applications. These approaches were also fundamental in providing an interdisciplinary perspective to many of the projects.

Process: While the techniques employed by the projects succeeded in generating a wide variety of applicants, they did not always result in sufficient response from the targeted populations. For example, bro chures and announcements in professional newsletters and personal contacts seemed to work well for experienced research professionals. However, there appears to be a need to employ different techniques for post-doctoral applicants because they tend not to be in the professional organizations and personal networks to which this method is geared.

b. Selection

Although the Minorities and Women Program is now geared toward advanced research opportunites there are no NIE guidelines for selection of participants.

All selection criteria are decided at the project level with each project selecting those applicants who theoretically mesh with their stated goals and objectives. The criteria take many forms and include evidence of academic success, level of education, evidence of community participation, the development of quality research proposals, as well as a commitmentment to pursuing a career in educational R & D. These examples do not exhaust the variety of criteria or the combinations that can be found within the fifty (50) projects.

Context: There were a number of constraints that influenced participant selection procedures and, therefore, the composition of the participant population. For example, according to Project Directors, they did not receive funding until after the dates by which applicants were to be notified of awards. Consequently, several applicants who had been selected (but not notified) felt that they could wait no longer, and accepted other offers. Also, it appeared that because of limited opportunities to obtain the prerequisite experiences, Hispanics and Native Americans were conspicuously absent from projects other than those that focused specifically on their ethnic groups. Finally, limited male participation seemed to be related to the projects' practice of recruiting primarily in Schools of Education versus social science departments. Since the Schools of Education have far higher female enrollments, recruitment that focuses on those schools would be expected to produce a high percentage of women participants.

Process: As a result of short timelines and inadequate outreach mechanisms, many projects resorted to the "best available" approach to participant selection of individuals who were either overqualified or underqualified for project activities. Many projects made selections in a manner consistent with organizational strengths and institutional needs. For example, projects

housed in IHE's with strong ethnographic departments chose individuals with interest and experience in that area. Developing institutions that were just beginning to set up research facilities chose those individuals whose participation and research products could best be used by the institution as a whole, as well as by the participants.

c. Implementation

Implementation refers to the variety of methods employed by staff to carry out project activities. The activities in this section focus on the start-up preparations which include announcement, outreach curriculum development, the location of physical plant and arrangements for mentors, etc.

Context: While many of the project directors were experienced researchers, few of them had background in directing intervention programs. In an attempt to compensate for this lack of experience, many directors structured support mechanisms into the organization of the projects. The mechanisms included advisory panels, participant councils, selection committees and co-directorships. While none of the projects operated in departments that had on-going intervention programs, one Project drew heavily upon the resources of a minority student/community service organization to structure and guide its operation.

Process: The start-up phase for many of the projects tended to be too short. Project directors initiated critical start-up activities before the actual approval and committment of funds. Many directors expressed the belief that had they done otherwise, they would not have been able to provide the services outlined in their proposals. Project activities were consistent with project objectives, and on the basis of measures such as participant retention and perceived impact were also very successful.

d. Mentors and Relationships

The development of mentor relationships is cited as valuable in career development. These relationships are seen as important not only to intellectual growth, but also to sponsorship for jobs, and in obtaining information about emerging research and potential funding opportunities. Many projects incorporate mentor relationships into their overall project design.

Context: Discussions with staff and participants during site visits revealed that most participants had never been involved in a mentor relationship prior to the project. Most mentors, on the other hand, had previously worked closely with individuals whose research experiences were similar to those of the project participants. Most mentors, however, had little experience in serving as a mentor for minority individuals.

Process: There were few true mentor relationships (i.e., a senior researcher guiding the research activities of a junior person whom he/she has personally selected). There were, instead, variations on the mentoring theme. Mentors and participants were often paired based primarily on mutual research interests. Participants typically chose from among 3 or 4 potential mentors rather than vice versa. In still other cases the project director served as a true mentor to a few of the participants.

e. Procedural Barriers

There are a number of barriers to inclusion in and advancement in educational research and development for minorities and women. These barriers include: lack of financial assistance, limited arrangements for child care facilities, release time or flex time, and lack of acknowledgement for experience in the field in the form of "life experience credits."

One of the goals of the Minorities and Women's Program is to influence the reduction of the barriers, and consequently, to improve accessibility for certain target populations.

Context: As participants discussed their backgrounds and pre-project status, the most common procedural barrier mentioned was the lack of release time from current job responsibilites, which would allow them the opportunity to conduct research in their interest areas. Many participants viewed the projects as opportunities to brush up on research skills and conduct research with experienced professionals in the field. Particpants also mentioned the limited amounts of travel and participation at professional meetings as barriers.

Process: As individuals became involved in project activities, release time continued to surface as a problem. Many participants and staff members must still fulfill certain obligations while participating in the projects. Lack of financial support is often expressed by project directors as a constraint to providing release and/or flex time for all individuals involved on the projects. Travel and participation in professional organizations was typically perceived as the strongest element of the projects.

f. Networks

Similar to mentor relationships, networks are seen as necessary elements in career development. Networks refer to the interconnected groups of individuals who tend to control the system by which individuals in educational R & D achieve positions of leadership. These individuals

through their formal and informal relationships, are seen as influencing the flow of information critical to advancement, the publication and grant opportunites that are related to success and the citations that indicate that one's research efforts do indeed have an impact on the discipline.

Context: The LM&A team found that most participants had limited or no professional network ties. In many cases project staff had not only traditional network ties but their networks also included persons in positions to provide applied and community based experiences.

Process: Networks were successfully employed in most of the projects to provide professional growth experiences for the participants. There was considerable networking among projects to share experiences, problem resolution and expertise. Projects provided participants with research and publication opportunities, on and off the actual project site. Many of the networking situations were the result of personal networks developed before the project's inception.

g. Research Training, Content, Methodology

Research training, content, and methodology refers to the efforts designed to improve the skill levels of minorities and women who might aspire to become educational researchers, the topics upon which the research of those individuals focuses, and the procedural and analytic techniques which are used to accomplish and interpret that research.

Context: Most participants brought to the program little research

training and few skills. They also brough a keen interest and sensitivity to important educational research areas. Many of the pre-docs had no research training and very few skills. While the post-docs had research skills and theory based knowledge, they had little or no practical field experience and needed an opportunity to enhance and use their research skills.

Process: The projects provided the participants with enhanced skills in the areas of expressed need. Through internships and degree programs as well as team research, the pre-docs obtained both research skills and experience. The post-docs were able to get practical experience through forums/conferences, team research and internships. Experienced professionals were able to enhance their research skills by attending workshops and conferences and conducting individual or team research. In many instances, the time period for experienced professionals was too short to give them the skills necessary for conducting research on their own, but it did give them an opportunity to become aware of the need for research capability and alternative methods for achieving it.

h. Non-Academic Institutional Climate

The non-academic institutional setting refers to those institutional conditions which may be related to covert or overt discrimination against or barriers to minorities and women in educational research. It may also refer to institutional postures relative to affirmative action and other issues that do not directly influence one's educational research experiences but may lead to perceptions of racial or gender inequity at an institution. These perceptions, in turn, might prove to be distracting to one participating in a research skills program.

Context: During LM&A site visits, the team had an opportunity to speak with a variety of respondents. These contacts included institutional officials, faculty not directly involved in the project, department heads and non-project employees, in addition to project directors, project staffs and participants. The discussions often revealed that the institutional climate reported in the proposals were not reflective of reality. The social action programs mentioned in proposals were often isolated incidences or the brainchild of a single individual working on his/her own time. The high number of minorities and women on staff did not reflect their relatively low status within the organization.

Process: One concern expressed by NIE was the possiblity of backlash or resentment toward the projects. The LM&A staff found no evidence of this in the projects reviewed. While there was always verbalized support for the projects, the lack of adequate funds was used in many cases to excuse any shortcomings in implementation.

i. Participants and Similar Individuals

The term "participants" refers to those individuals who receive services provided by the NIE Minorities and Women's Projects. The term "similar individuals" refers to those who are (or were) in the project setting (e.g., the same university department), have the same general responsibilities as participants, but are (were) not privy to the same intervention services.

Context: The LM&A staff found that the participants had high expectations of upward mobility and placement after completing project activities. The participants were seldom different in education and

expectations from other departmental individuals. All participants verbalized interest in minorities and/or women's issues.

Process: There were high degrees of peer and staff support. Participants often cited this support as a major contributing factor in their increased self competence. Also, in many cases, there were indications of mobility in the form of promotions and job offers. In institutions where there were possibilities for internal placement, the first year placement track record was generally good. There were, however, anticipated problems for the second year placement due to insufficient job openings.

CHAPTER VII

RECOMMENDATIONS

This section presents design study recommendations for the NIE Minorities and Women's Program evaluation. Our intent is to provide suggestions that would enhance the quality of the implementation phase. The recommendations found in this section are based upon site visits, a review of current literature, proposal reviews, analyses of information from periodic reports and advisory panel discussions.

1. EMPHASIS ON POLICY ANALYSIS

The question of whether this NIE Minorities and Women's program needs an evaluation as opposed to an analysis of policy was raised in the course of advisory panel discussions, meetings with NIE staff and site visits. These discussions led to LM&A's recommendation that there is a need for the integration of these two areas. Evaluation, which tends to be oriented toward project and program activities, should be handled as a separate issue leading toward a discussion of the implication these activities have upon future policy. An analysis of the success with which project activities reduce the barriers and impact on the inclusion of minorities and women in educational research and development allows more complete information with which to make policy recommendations.

2. INTEGRATED EFFORTS

The proliferation of intervention programs and the subsequent analysis of these programs leads to the recommendation that the

implementation phase should include an in-depth look at other federal programs designed to achieve the same goals in these and related research areas. The lessons to be learned from these efforts as well as ongoing programs may well allow reductions in cost and duplication of efforts. The implementation phase should also take advantage of "underrepresentation" studies, such as those currently being conducted by Minority and Women Program staff.

3. QUALITY VS. QUANTITY OF RESEARCH

The program goal is to increase the opportunities for minorities and women in educational research and development. However, the implementation phase should not only look at the quantity of research being conducted by the target populations but also the quality of the research being conducted. The study should look closely at topics, design, methodology, relevance, credibility and acceptance of research.

4. COSTS

While not specifically discussed in the scope of this document, it is necessary to look at the costs involved in program activities. It would be inappropriate and inadequate to look solely at the numbers of people being served, since the needs of certain target population may outweigh simple cost per person considerations. NIE should be prepared to give the implementation contractor guidelines for an investigative approach. It would also be necessary to provide information on whether projects were currently operating, as well as, current and past funding levels.

5. CAREER ADVANCEMENT

While the program seeks to offer opportunities for advanced research among minorities and women in educational research and development, it also has as one of its major objectives the career advancement of these individuals. Each activity in which the projects engage related in some fashion to that goal. In the implementation phase an overall judgment will have to be made not only on whether, indeed, there have been increased opportunities for research but also whether those increased opportunities have led toward an advancement in the careers of those who chose to participate.

SUMMARY

This section has presented recommendations for the implementation phase of an evaluation for the Minorities and Women's Program on Advanced Research Opportunities. These recommendations include an assessment of the need for the advanced research effort in light of market conditions, alternative strategies for achieving the same outcomes, the role of the federal government in providing opportunities, an evaluation of current NIE efforts and the generation of recommendations for future policy considerations. These recommendations, if incorporated, should provide a sound basis for implementing an evaluation, the end-product of which will be comprehensive and useful in guiding informed policy decisions.